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10/032,770	12/27/2001	Michael A. Tedesco	4241-4002	5744

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EXAMINER

LE, DEBBIE M

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

M

**Office Action Summary**

Application No.

10/032,770

Applicant(s)

TEDESCO, MICHAEL A.

Examiner

DEBBIE M LE

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-84 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-84 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Since the application discloses that alternate database engine is as a database server which accepts a user input query and processes before submit to the first database engine, which where the data files reside. Therefore, the claim 7 "evaluating the query against system usage **prior to submission to the alternate database engine** is contradicting to independent claim 1.

### ***Claim Objections***

Claim 47 is objected to because of the following informalities: because there is a typographical error.

In claim 47, line 2, after the term "by", "the firsy" should be corrected to "the first". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 15-40, 42-66, 68-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-omari et al (USP 6,438,741 B1) in view of Preisig (USP Application No. 2002/018429 A1).

As per claims 1, 25-28, 51-54, Al-omari discloses a system for evaluating a query prior to submit to the database to obtain a data result comprising:

**receiving, from a user, a database command**, as input query (fig. 2, # 148, col. 10, line 65); and

**processing the database command using only a command layer of an alternate database engine**, as the SQL database server engine 102 generates an optimized plan for executing the SQL query and then executes the plan (col. 8, lines 3-5, 10-11) without accessing the command layer of the first database engine.

Al-omari does not explicitly teach requiring data from a first database engine, the first database engine having a command layer for processing database commands. However, Preisig teaches for reformatting a client query to access a database system comprises **requiring data from a first database engine**, as a database system (fig. 1, # 24, ¶ 0010, line 6) **the first database engine having a command layer for processing database commands** (¶ 0025). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings

of the cited references to provide a first database engine because it would provide an internal user to access a database (a company's database) without requiring interfacing an Internet Service Provider firewalls in order to minimize the network traffic congestion.

As per claim 2, Al-omari teaches **wherein the first database engine stores the data in a first database file**, as user access to data in stored databases (fig. 2, # 112, col. 7, lines 64-65).

As per claim 3, Al-omari teaches **wherein the alternate database engine stores second data in a second database file**, as to retrieve and/or modify a set of database tables 113 that are stored in the database server 102 (col. 8, line 9).

As per claim 4, Al-omari teaches **wherein the database command is compatible with at least one of: a Structured Query Language format, a Javascript Database Connectivity (JDBC) protocol and an Open-Database Connectivity protocol**, as SQL (col. 10, line 67).

As per claim 5, Al-omari teaches **wherein the database command is a query**, as input query (fig. 2, # 148, col. 8, line 66)

As per claim 6, Al-omari teaches **said processing the database command further comprising: evaluating the query**, as the input query 148 is processed by a query processor 152 that includes a parser, converts the query into an internal representation referred to as a query tree (col. 11, lines 1-4).

As per claim 7, Al-omari teaches **said evaluating further comprising: evaluating the query against system usage prior to submission to the alternate database engine**, as top-down rule based system by identifying the complexity of a

query prior to applying a rule to an expression, the cost, the resource usage associated with a query operator (abstract, lines 2-3, col. 4, lines 52-55).

As per claim 8, Al-omari teaches said evaluating further comprising: evaluating the query based on **at least one of: a parameter of the query**, a number of relational databases to be accessed for the query, a size of a data field to be searched for the query, an availability of resources of a system maintaining the alternate database engine, an availability of resources of a system maintaining the first database engine, a number of relational database tables to be employed for the query, a limitation imposed on a size of a query result set, a number of columns of data to be returned in a query result set, a cost of a similar stored query and a number of function calls for the query, as group attributes, parameters (col. 15, lines 48-49, col. 16, lines 17, 35-59, col. 29, lines 9-27).

As per claim 9, Al-omari teaches **submitting the query to the alternate database engine with a limit on a number of returns responsive to the query, based on said evaluating**, as generate one or more alternate execution plans, the query execution engine executes the input query (col. 11, lines 10-15).

As per claim 10, Al-omari teaches **editing the query, based on said evaluating**, as binding, and/or substitute (fig. 13b, col. 5, line 18).

As per claim 11, Al-omari teaches **rejecting the query, based on said evaluating**, as if the cost exceeds the content's cost limit, a plan is not generated for the expression and the task terminates (col. 33, lines 2-3).

As per claim 12, Al-omrai **teaches wherein said evaluating comprising: determining, prior to said processing, whether the database command requires accessing the first database engine, and if not, accessing data stored only by the alternate database engine**, as a user at workstation 104 can transmit a SQL query to retrieve and/or modify a set of database tables 113 that are stored in the database server 102 (col. 8, lines 8-10).

As per claim 13, Preisig teaches translating the query to a native format of the alternate database engine (§ 0011).

As per claims 15-17, Preisig teaches generating a result of the query, transmitting the result to the one of the plurality of users submitting the database command, transmitting the result in a format of the first database engine (§ 0011-0012).

As per claim 18, Al-omari **teaches storing second data in a database file maintained by the alternate database engine**, as to retrieve and/or modify a set of database tables 113 that are stored in the database server 102 (col. 8, line 9).

As per claim 19, Al-omari determining whether the database command requires at least a portion of said second data, and if so, identifying said portion responsive to the database command (col. 8, line 9-10).

As per claim 20, Al-omari teaches receiving new data to be provided responsive to database commands (col. 11, lines 1-4); and storing said new data in a database file maintained by the alternate database engine (col. 11, lines 4-8).

As per claim 21, Preisig teaches **receiving new data to be provided responsive to database commands (SQL statement); and storing said new data in**

**a database file maintained by the first database engine** (SQL statements UPDATE, INSERT, DELETE, ¶ 0031).

As per claim 22, Preisig teaches translating the database command to a native format of the alternate database engine (¶ 0011).

As per claim 23, Preisig teaches identifying data stored by the first database engine that is responsive to the database command; and accessing said identified data, wherein said identifying and accessing are performed exclusively through the command layer of the alternate database engine, without interaction with the command layer of the first database engine (¶ 0025).

As per claim 24, Preisig teaches wherein the alternate database engine executes only read-only databases commands (SELECT, ¶ 0031).

As per claims 29, 55, wherein the computer system is at least one of: a local area network, a wide area network, an intranet, an extranet, a wireless network and the Internet (¶ 0018).

Claims 30-40, 42-50, 55-66, 68-75 have similar limitations as claims 2-13, 15-24; therefore, they are rejected by the same subject matters.

Claims 76-78 are rejected by the same rationale as state in independent claim 1 arguments. Furthermore, Al-omari discloses **a plurality of users on a computer system**, as many user workstation computers or terminals 104 (col. 8, lines 1-2).

Claims 79-80 are rejected by the same rationale as state in independent claim 1 arguments. Furthermore, Al-omari discloses **receiving a result of the database command from an alternate database engine**, as as the SQL database server engine



102 generates an optimized plan for executing the SQL query and then executes the plan (col. 8, lines 3-5, 10-11, col. 11, lines 1-14).

Claims 81-83 are rejected by the same rationale as state in independent claim 1 arguments. Furthermore, Preisig discloses **receiving a read-only database command from a plurality of users**, as a SELECT SQL statement (§ 0031).

Claims 14, 41, 67 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-omari et al (USP 6,438,741 B1) in view of Preisig (USP Application No. 2002/018429 A1) further in view of Driesch Jr. et al. (USP Application No. 2003/0065648 A1).

As per claims 14, 41 and 67 Al-omari and Preisig do not explicitly teach determining whether the query requires accessing temporally sensitive data, and if so, accessing a transaction log of the first database engine. However, Driesch teaches **determining whether the query requires accessing temporally sensitive data, and if so, accessing a transaction log of the first database engine**, as the log 134 may later be accessed to retrieve query implementation information for purpose of (§ 0028). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the step of determining whether the query requires accessing temporally sensitive data, and if so, accessing a transaction log of the first database engine because a log file will allow for easy access to the data to perform any analysis for purpose of, for example, determining system efficiency.

As per claim 84, Al-omari teaches **receiving, from a user, a database command**, as input query (fig. 2, # 148, col. 10, line 65); **processing the database command using only a command layer of the alternative database engine without accessing the command layer of the first database engine**, as the SQL database server engine 102 generates an optimized plan for executing the SQL query and then executes the plan (col. 8, lines 3-5, 10-11) **said processing further comprising: evaluating the database command to determine system usage of the query at the database engine, prior to execution of the database command**, as top-down rule based system by identifying the complexity of a query prior to applying a rule to an expression, the cost, the resource usage associated with a query operator (abstract, lines 2-3, col. 4, lines 52-55) **said evaluating based on at least one of: a parameter of the, a number of relational databases for the database command, a size of a data field to be searched for the database command, an availability of resources of the database engine, a number of relational database tables to be employed for the database command, a limitation imposed on a size of a query result set, a number of columns of data to be returned in a query result set, a cost of a similar stored database command and a number of function calls for the database command**; as group attributes, parameters (col. 15, lines 48-49, col. 16, lines 17, 35-59, col. 29, lines 9-27) **determining a threshold value for system usage of the alternate database engine**, as if the complexity of the query is above a threshold (abstract, lines 4-5) **wherein the threshold value is based on at least one of: estimated processor usage, estimated memory usage, input/output resource**

**usage and disk resource usage of the alternate database engine**, as the cost components measure the resource usage associated with a query operator (col. 4, lines 52-55); **if the system usage surpasses a threshold value, performing at least one of the following: submitting the database command to the alternate database engine with a limit on a number of returns responsive to the database command**, the plan is created if the input plans does not exceed the expression's cost limit (col. 33, lines 12-13) **editing the database command**, as binding, and/or substitute (fig. 13b, col. 5, line 18) **and rejecting the database command**, as if the cost exceeds the content's cost limit, a plan is not generated for the expression and the task terminates (col. 33, lines 2-3); **determining whether the database command requires accessing data maintained by the first database engine, and if not, accessing second data stored only by the alternate database engine**, as a user at workstation 104 can transmit a SQL query to retrieve and/or modify a set of database tables 113 that are stored in the database server 102 (col. 8, lines 8-10).

Al-omari does not explicitly teach a database command directed to a first database engine, the first database engine having a command layer for processing database commands. However, Preisig teaches for reformatting a client query to access a database system comprises **requiring data from a first database engine**, as a database system (fig. 1, # 24, ¶ 0010, line 6) **the first database engine having a command layer for processing database commands** (¶ 0025). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to provide a first database engine

because it would provide an internal user to access a database (a company's database) without requiring interfacing an Internet Service Provider firewalls in order to minimize the network traffic congestion. Furthermore, Preisig teaches translating the database command to a native format of the alternate database engine (§ 0011); generating a result of the database command; and transmitting the result to the user in a format of the first database engine (§ 0011-0012).

Al-omari and Preisig do not explicitly teach determining whether the query requires accessing temporally sensitive data, and if so, accessing a transaction log of the first database engine. However, Driesch teaches **determining whether the query requires accessing temporally sensitive data, and if so, accessing a transaction log of the first database engine**, as the log 134 may later be accessed to retrieve query implementation information for purpose of (§ 0028). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to implement the step of determining whether the query requires accessing temporally sensitive data, and if so, accessing a transaction log of the first database engine because a log file will allow for easy access to the data to perform any analysis for purpose of, for example, determining system efficiency.

**Conclusion**

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose phone number is (703) 305-9601 for faster service.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEBBIE M LE whose telephone number is 703-308-6409. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DEBBIE M LE  
Examiner  
Art Unit 2177

Debbie Le

April 2, 2004.



GRETA R. SMITH  
PRIMARY EXAMINER